

REMARKS/ARGUMENTS

Further consideration of this application is respectfully requested.

Dependent claims 25, 35 and 45 have been cancelled without prejudice and merged into their respective independent parent claims 24, 34 and 44 respectively.

The rejection of claims 24-31, 34-41 and 44-51 under 35 U.S.C. §102 as allegedly anticipated by Addink '477 is respectfully traversed.

The related rejection of claims 32, 33, 42, 43, 52 and 53 under 35 U.S.C. §103 as allegedly being made "obvious" based on Addink in view of Katz '642 is also respectfully traversed.

The Examiner is thanked for including a "Response to Arguments" section at page 5 explaining why the Examiner has not found applicant's earlier amendment/argument to be persuasive.

The Examiner asserts that "dynamic error threshold alterations using PHBDR is not a claimed limitation and must therefore be disregarded". However, with respect, claims 26, 36 and 46 each do already require as a claimed limitation dynamic error threshold alterations: "said originating terminal sends an update if said computed error value is larger than an error tolerance that is a function of said measurement of relevance". Accordingly, the Examiner's apparent disregard of applicant's earlier arguments concerning dynamic error threshold alterations using PHBDR is believed to be clearly erroneous.

Similarly, the Examiner alleges that the combination of Addink/Katz "solve the problem of bandwidth conservation". This apparently is related to the Examiner's allegation that the Addink/Katz combination teaches a computer network "wherein said assessment of update necessity includes a measurement of the available network bandwidth" (e.g., see claims 33, 43 and 53). However, to support this allegation, the Examiner refers only to Katz, column 3, lines 25-59. The undersigned's reading of this passage in Katz does not support the Examiner's allegation that there is any measurement of available network bandwidth. Accordingly, this apparent disregard of applicant's earlier arguments and claims is also clearly erroneous.

The Examiner's sole remaining contention is that the Addink teaching of updating only the thirty closest targets (column 5, lines 1-9) constitutes an assessment of update necessity including a measurement of relevance which the Examiner infers "must take place to gauge which 30 are actually the closest". Although this is believed to be an overbroad interpretation of any actual teaching (explicit or inherent) in Addink '477, applicant has now amended the independent claims 24, 34 and 44 so as to be even further distinct from any possible teaching of Addink.

Amended independent claims 24, 34 and 44 now require that the assessment of update necessity includes a comparison between the data of the local object at the originating terminal and the predicted data of the corresponding duplica at the destination terminal.

Addink '477 does not disclose comparing the data of a local object and the predicted data of its corresponding duplica. Addink presumably compares location data when assessing the thirty closest objects to update (column 5, lines 6 to 9) but this is a comparison between the

current data of objects defining different entities, whereas the independent claims now require a comparison between two sets of data defining the same entity. Addink also compares clock offsets (column 5, line 56 to column 6, line 45) but these are not data of the local or duplicated objects. Rather, they are information calculated with reference to timestamps of data packets and the time that those packets are received. Thus the amended independent claims are not anticipated by Addink.

Further, there is no reason why the ordinarily skilled person reading Addink would be led to any suggestion of the amended claims. The present application solves the problem of bandwidth while Addink addresses latency.

Katz '642 discloses a bandwidth-efficient computer simulation over a network of sustained contact between objects (see abstract). The use of the word "object" here means physical objects simulated on a computer, as is made clear by the description at column 1, lines 28 to 31 of the interactions that can take place between objects, i.e., it is roughly the same as the word "entity" in the present application. Katz does not disclose duplicating objects on the network, predicting the data of duplicas, modifying predicted data in response to receiving updates, or sending updates in dependence on an assessment of update necessity, as required by the amended independent claims. Thus the claims are not anticipated by Katz.

With regard to alleged obviousness, Katz addresses a completely different problem from the present invention. It is concerned with realistically simulating sustained contact between objects while keeping network traffic to a minimum, and solves this problem by using transfer functions that describe the sustained contact (column 4). A prior art system called DIS is

LAVOIE et al.
Appl. No. 09/829,003
December 13, 2005

discussed at column 3, lines 25 to 39. Here it is stated that DIS uses prediction algorithms to reduce message frequency, but that the use of prediction makes sustained contact simulation very difficult. Thus an ordinarily skilled person trying to reduce bandwidth in a multi-player game would not be led to the present invention upon reading Katz.

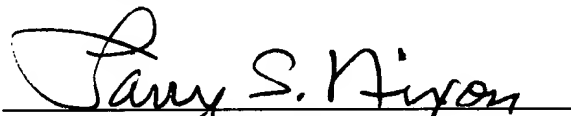
Since neither Addink nor Katz suggest comparing the data of a local object and the predicted data of its corresponding replica, the comparison of these documents would similarly not lead the claimed invention.

Accordingly, this entire application is now believed to be in allowable condition and a formal Notice to that effect is respectfully solicited.

Respectfully submitted,

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